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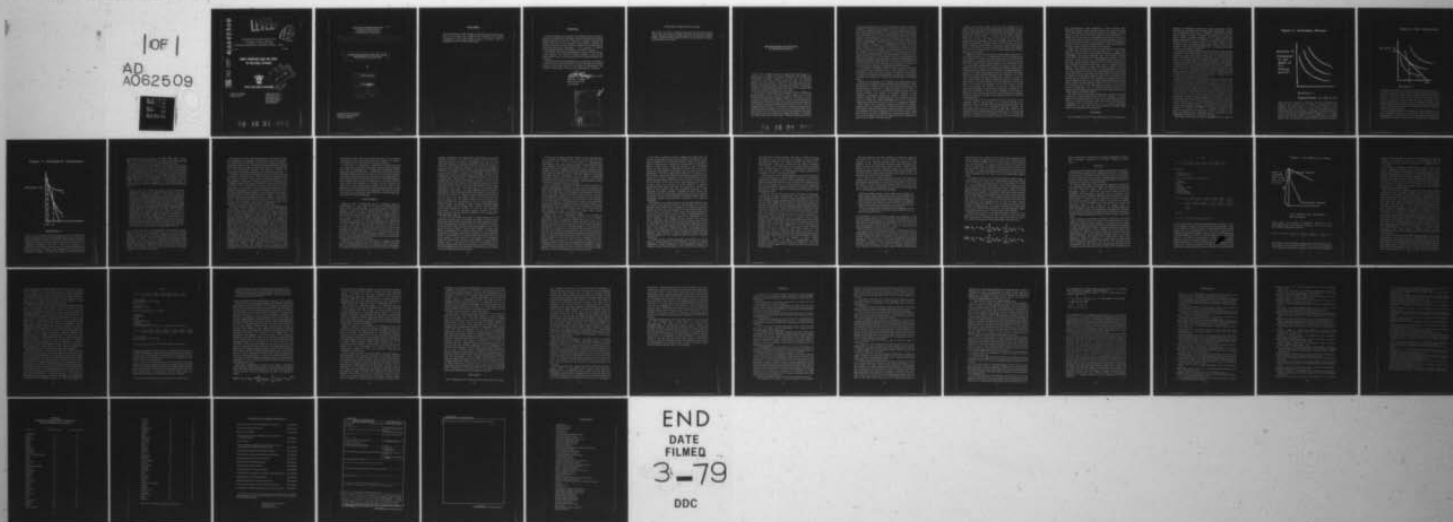
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ARMS TRANSFERS AND THE LOGIC OF POLITICAL EFFICACY.(U)
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US ARMY WAR COLLEGE
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**ARMS TRANSFERS AND THE LOGIC
OF POLITICAL EFFICACY**



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⑨ Military issues research memo.

⑥ ARMS TRANSFERS AND THE LOGIC
OF POLITICAL EFFICACY.

by

⑩ David J. Sylvan

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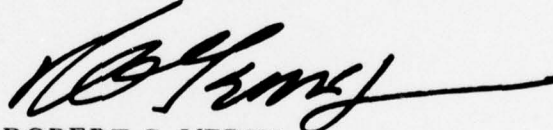
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FOREWORD

This memorandum was presented at the Military Policy Evaluation: Quantitative Applications workshop conference hosted by the Strategic Studies Institutes in mid-1977. During the workshop, sponsored by DePaul University and the Strategic Studies Institute, academic and government experts presented the latest findings of formal models and statistical-mathematical approaches to the processes of military decisionmaking, assistance, intervention, and conflict resolution.

The Military Issues Research Memoranda program of the Strategic Studies Institute, US Army War College, provides a forum for the timely dissemination of analytical papers such as those presented at the workshop.

This memorandum is being published as a contribution to the field of national security research and study. The data and opinions presented are those of the author and in no way imply the indorsement of the College, the Department of the Army or the Department of Defense.



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Major General, USA
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BIOGRAPHICAL SKETCH OF THE AUTHOR

MR. DAVID J. SYLVAN is a graduate student earning his doctorate in political science from Yale University. He holds a bachelor of arts degree from Williams College, and masters' degrees in political science from Yale. Mr. Sylvan's research interests include international political economy and other aspects of relations between rich and poor countries.

ARMS TRANSFERS AND THE LOGIC OF POLITICAL EFFICACY

One of the standard exercises in experimental psychology is to demonstrate the differences between fixed-ratio and variable-ratio reinforcement schedules. Students soon learn that rats rewarded irregularly for their efforts are much slower to "forget" the reinforced behavior than rats rewarded at a fixed rate. This observation has some relevance for political behavior. Those policies which are occasionally successful are maintained long after their *raison d'être* vanishes. The transfer of conventional weapons is a case in point.

The Stockholm International Peace Research Institute (SIPRI) has estimated that in 1950, US exports of major weapons to the Third World (excluding Vietnam) were \$91 million (in 1973 prices); in 1974, the figure was \$940 million (SIPRI, 1975a).¹ The mode of transfers has changed as well. Whereas in the 1950's, military aid funded nearly all major weapons exports to underdeveloped countries, by 1971, sales had surpassed grant aid (Klare, 1972) and are currently estimated (on a worldwide basis) to amount to 90 percent of US transfers (New York Times, March 8, 1977). Clearly, the form of transfer policy has changed tremendously. But the rationale has remained unchanged: "to promote the foreign policy of the United States."² Whether that policy has been

to contain communism (as in the "forward defence areas"), to gain or maintain US influence both in general and vis-a-vis the Soviet Union (as in the "free world orientation areas"), to ensure regional stability (as in South Asia and Latin America), to assure friendly sources of oil supply (as in the Middle East), or (as has occasionally been asserted) to reduce regional arms competition (as in Latin America), it has rested on the implicit assumption that supplying arms can somehow help achieve those goals (see SIPRI, 1971, for a discussion of these and other goals). Arms transfers are deemed to be mechanisms of control; those who import weapons are, by reason of those imports, supposed to have forfeited a measure of autonomy. It is this proposition, constant amid the changing currents of transfer policy over the last quarter century, which bears close examination. This paper attempts to do just that. Our inquiry will proceed by (1) providing an overview of extant arguments about arms transfers; (2) constructing a model of political efficacy; (3) deriving theoretically based measures of the various concepts involved; and (4) testing the model empirically and estimating the efficacy of arms transfers as determinants of politically desirable outcomes.

Let us begin by delimiting our field of inquiry somewhat. This paper is concerned with the political effects of arms transfers—not with the motivations of those who sell or buy arms, nor with the economic gains (or losses) to be realized by selling. Rather, we shall focus on the degree to which arms transfers aid or hinder the putative goals of US foreign policy.³

Opinions on the efficacy of US transfers vary tremendously. Some writers see arms transfers as having considerable political effect. Stanley and Pearton, for example, assert that "the political orientation of an arms-importing country may be deduced simply from the make of weapons it imports" (1972:7). If we shift our sights from the actions of specific countries to the structure of asymmetric relations, we find comparable conclusions. Hveem, for instance, referring to arms transfers, contends that "the metropole may, and in fact *does*, maintain control by making the subpole dependent on it for the supply and maintenance of the means of control" (1975:335; emphasis in original).

Other writers take a position somewhat more toward the middle. Harkavy (1975), in a general survey of transfer policies, concluded that what influence had been achieved by sellers was vitiated to some extent by leverage on the part of recipients. Joshua and Gibert (1969), using data on shared votes in the United Nations, found that recipients of US arms were less likely to support the American position than Russian clients were to support the Soviet position.

Finally, some writers flatly assert that arms transfers have no political effects that redound to the advantage of the supplier. In a case study of US transfer policy in the Persian Gulf, Berman attacks the idea that arms sales lead to "actions or policies by the recipient states that benefit the United States So far, this has proved illusory" (1976:110). A study by Nincic (1975) found that US military assistance tends to increase, rather than diminish, the proportion of Third World hostility directed toward the United States. In short, despite a relatively large number of recent works (and this listing only scratches the surface) concerned in part with the subject, there appears to be no firm conclusion that can be drawn regarding the political effects of arms transfers.

I suggest that there are several reasons for this impasse. First, there is no common, agreed-on set of concepts and theories in the literature on arms transfers. At a minor level, the specific aspect of transfer policy employed as an explanans varies from writer to writer (e.g., some use sales, others grants; some use major weapons, others all transfers). More to the point, the explanandum also varies from study to study: North American writers focus on the behavior of individual nation-states; Northern European writers focus on structures encompassing groups of states.⁴ Even within each approach, there are considerable theoretical differences: in the Northern European school, Albrecht *et. al.* (1975) focus on ideological processes as leading from transfers to outcomes, while Hveem treats the material resources inherent in transfers as descriptive of the relevant process. Even individual writers tend to use terms in a somewhat loose manner. Such a careful source as SIPRI (1971), for instance, uses "influence" at times as a possible effect of arms transfers (Chapter 1) and at times as equivalent to transfers (715). Similar inconsistencies can also be found in Harkavy (1975). Given the different concepts, theories, and levels of analysis at which the different writers are operating, consistent results appear unlikely and cumulative results impossible.

A second reason for the inconsistent results is that most of the arguments made in the literature are not rigorous enough to be replicated. To put it bluntly, explicit theoretical statements about the form and logic of the relationship between transfers and (non)efficacious outcomes are usually lacking. Most writers fail to indicate the exact relationship being considered (e.g., is it between the direction of transfers and some goal of US policy, or between the amount of transfers and that goal?). Similarly, the type of relationship

(e.g., discontinuous, linear, nonlinear) is rarely specified. Most egregiously, though, outside of vague references to spare parts and the role of the military, intervening processes are not spelled out. Most theorists seem to deal with the transfer-outcome relationship as a simple one—transfers lead to (non)efficacious outcomes—and to come to their conclusion via a kind of mental correlational analysis (Nincic is a welcome exception here). In short, given the imprecise, unspecified nature of much of the arms transfer literature, it becomes difficult to know the extent to which one study bears on another.

Finally, even assuming that writers are speaking the same language, and that they are precise in their speaking, there is a third major difficulty in most studies of arms transfers: they fail to establish causal relationships. There are undoubtedly other factors besides transfers which affect the realization of foreign policy goals; failure to control for those factors can lead to a misspecified model and hence to inaccurate causal inferences (Johnston, 1972:169). In particular, since arms transfers are correlated with other forms of interstate relations (Øberg, 1975), omission of those other factors is likely to result in estimates which overstate the effects of the *included* factors. Not only may arms transfers *not* lead to the (non)achievement of US foreign policy goals, the true relationship may be the reverse: arms may be sent as rewards to countries which aid in the achievement of US goals. Those authors who are cognizant of this possibility (e.g., Harkavy) fail to test the two models in such a way as to logically distinguish them from each other, thereby obscuring inferences about the “true” causal structure (cf. Koopmans, 1953, on the “identification problem”). As a result of these two difficulties, the true causal relationship between arms transfers and US foreign policy goals cannot be discerned in the various studies without considerable trouble.

For these reasons—inconsistent terminology, imprecise theoretical specification, and insufficient demonstration of causality—the various assertions and findings reported in the arms transfer literature provide little or no check on each other. Thus, most work in this field is not cumulative, and its potential value to us is thereby diminished considerably. It seems clear that a new approach is needed. What follows is an attempt at such an approach.

THE MODEL

Let us assume that all US foreign policy goals can be viewed as the

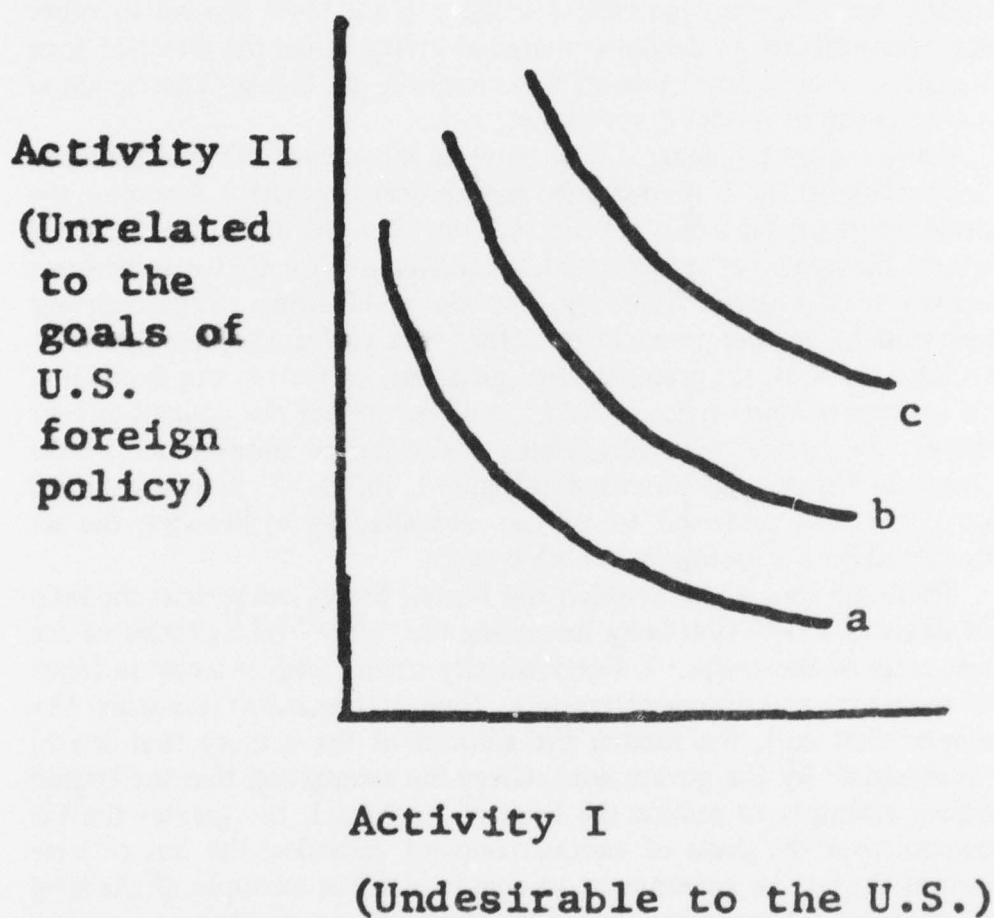
reduction of undesirable activities by foreign governments.⁵ These activities may be viewed by the United States as inherently negative (e.g., permitting the Soviet Union to establish a military base), or they may be viewed as leading to negative consequences (e.g., failing to repress "leftist" guerrilla movements). Let us assume further that foreign governments choose combinations of activities based on their utility, and that any particular activity is (at least relative to other activities) subject to declining marginal utility. Then the effect of arms transfers—or any other interstate transaction—on foreign governmental activities can be modeled as follows.

Recipient governments choose between increments of those activities undesirable to the United States, and all other activities. Assuming the declining marginal utility of any activity, the set of choices between which the recipient government is indifferent describes a hyperbowl convex to the origin. Since the activities yield utility to the recipient government, greater levels of an activity are preferred, *ceteris paribus*, to lesser ones. If, for presentational purposes, we restrict our exposition to two-dimensional space (which should not affect the conclusions we draw), the above reasoning yields the standard indifference curves shown in Figure 1. As indicated in Figure 1, the set of choices described by curve b is preferred to the set described by a; likewise, the set described by c is preferred to both b and a.

There are two ways in which the United States can restrict the level of Activity I. The first is by increasing the "price" of I relative to the resources of the recipient. Every activity carries with it a cost in terms of monetary and nonmonetary (e.g., time, information) resources. The greater that cost, the smaller the amount of the activity that can be "purchased" by the government. Given the assumption that the United States attempts to reduce the level of Activity I, the greater the US control over the costs of various recipient activities, the less of I we should expect the government to engage in.⁶ For example, if the level of recipient resources is p, and if the United States is able to maintain a ratio of Activity I's cost to Activity II's equal to m/x , then we would expect, *ceteris paribus*, that the United States could prevent the recipient government from engaging in levels of I greater than p/m . This situation is sketched in Figure 2. Readers conversant with microeconomic theory will notice that the level of Activity I is not likely to actually exceed k. This leads us to the second way in which undesirable activities can be constrained: ideology.

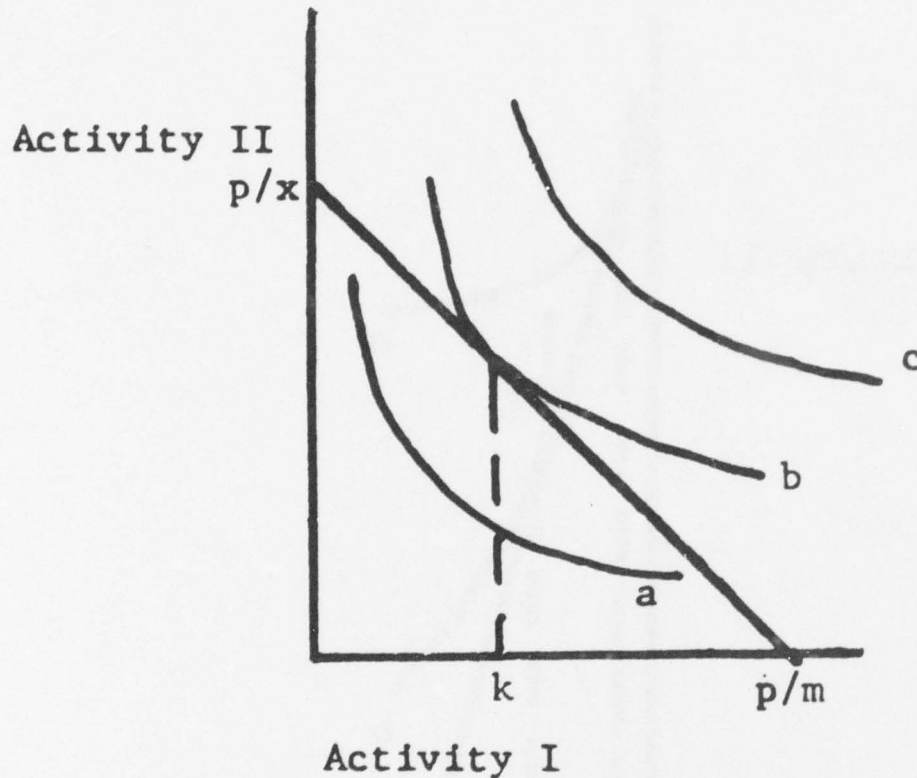
The United States does not have to manipulate costs in order to

Figure 1: Government Choices



restrict the level of Activity I. Instead, it can do so by lowering the preference the recipient has for Activity I, independent of the recipient's resources or the cost of the activity. Given the above assumption about US behavior, the greater the ideological sway the United States holds over recipient decisionmakers, the less of Activity I we should expect the recipient government to engage in.⁷ For example, suppose that, through a variety of propagandistic means, the United States is able, *ceteris paribus*, to make Activity I seem less preferable to

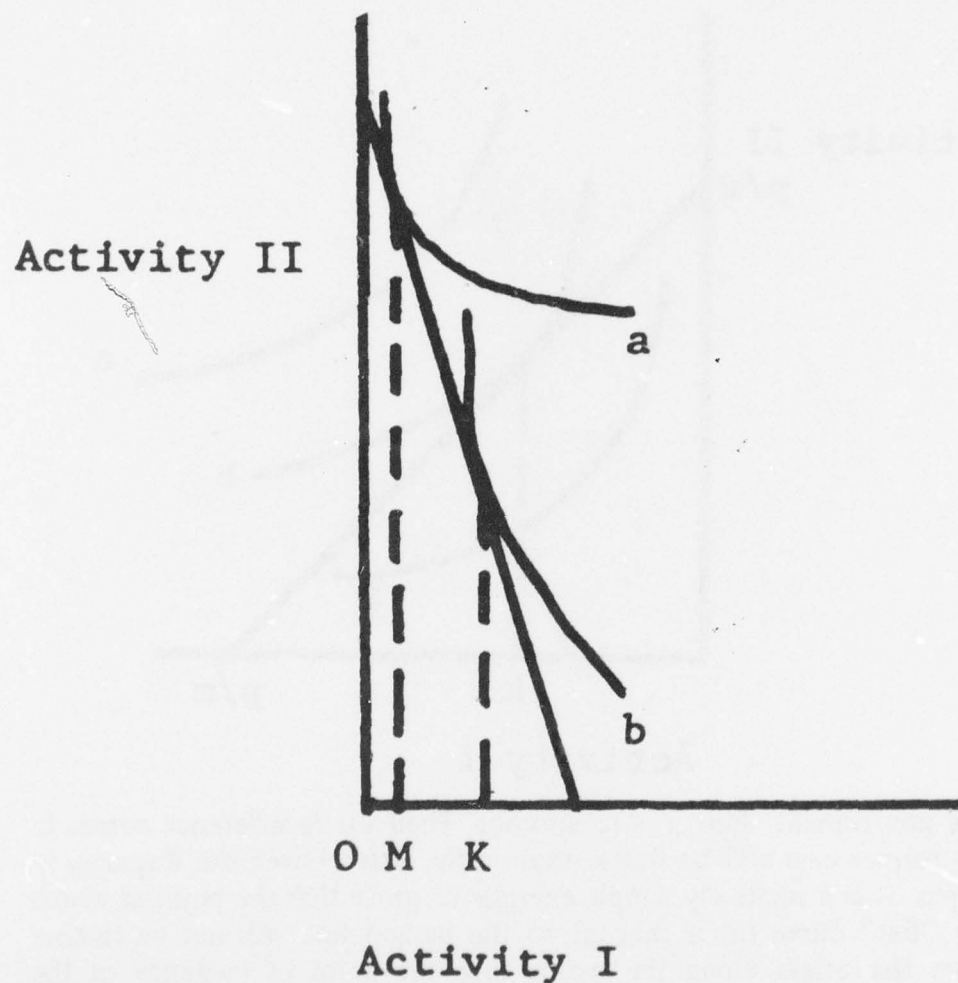
Figure 2: Cost Constraints



one government than it is to another. Then the indifference curves in the former case will be flatter than in the latter. Given this disparity in slopes, it is a relatively simple exercise to prove that the point at which the "flat" curve (a) is tangent to the budget line will not be further from the origin along the x-axis than the point of tangency of the "steep" curve (b). An instance of this is sketched in Figure 3; the distance OM will always be less than or equal to OK. Thus, even if US control over costs is minimal, it can still restrain levels of undesirable activity by ideological means.

We have now sketched two techniques the United States can use to keep undesirable activities at low levels. One is based on the manipulation of costs, the other on the manipulation of preferences. Assuming these tactics have different effects on the level of disagreeable

Figure 3: Ideological Constraints



activity, we can represent the above arguments as (1) $D = f(g(C), h(I))$ where D represents the level of disagreeable activity which US policy is aimed at lowering, C represents the extent of US control over costs, and I represents the extent of US control over ideology. If we make the not implausible assumptions that both C and I have effects on D irrespective of each other, that the effects of C and I can be depicted as linear, that there is a "normal" level of disagreeable activity, and that the relation is subject to stochastic disturbances, we can rewrite (1) as

the following structural equation: (2) $D = \beta_0 + \beta_1 C + \beta_2 I + u$ where β_0 is the "normal" level of D , β_1 and β_2 are coefficients indicating the strength of C and I , and u is a stochastic disturbance term.

Before we proceed to the estimation of this equation, several points should be cleared up. The first concerns, quite sensibly, the relation of the foregoing argument to the original question: just what does all this have to do with arms transfers? To answer this, let us delve somewhat more deeply into the literature. In 1971, SIPRI summarized three basic arguments related to the political effects of arms transfers (termed by SIPRI "hegemony"). It is worthwhile to quote the passage in some detail, for as we shall see, there is a considerable degree of correspondence between the SIPRI summary and the model elaborated above.

There are three ways in which the supply of weapons can reinforce hegemony. First, arms can be provided to enable local forces to perform military tasks which are in the interests of the supplying country: to prevent real or imagined military threats to the system or to expand the system by force. Secondly, the supply of arms may serve to strengthen the relationship between the supplying country and the recipient government. In this case, the supplying country may have little or nothing to gain through the use of the weapons. Having received arms, the recipient country becomes, in some degree, militarily dependent upon the supplying country, which can then demand favours or threaten to withhold spares or further supplies if the recipient does not comply with its interests. Alternatively, the supplying country may simply be interested in preventing another supplier from achieving this kind of relationship: this is known as pre-emptive supply. Thirdly, the supply of arms may provide an opportunity for influencing individuals in the recipient countries, in particular those in the military establishment. This occurs when contacts are made between the military personnel of the two countries and when military training accompanies the provision of weapons. This function is most relevant for countries where the military play an important role in politics, as they do in a large number of countries. (SIPRI, 1971:19)

Let us consider each of these arguments. The model we presented does not deal with the first proposition. Since none of the "Forward Defence" countries have (until quite recently) been denied military hardware, the existence of any necessary relation between arms and the prevention of threats cannot be empirically demonstrated. Most systematic evidence, however, points toward the conclusion that a large arsenal does *not* have a significant deterrent effect (e.g., Choucri and North, 1975; Wallace, 1973). We shall also ignore the preemptive argument, since it is true by definition.

The second and third propositions, however, strike closer to home. By withholding or threatening to "withhold spare or further supplies," the United States can in effect raise the cost to recipient countries of disagreeable activities. By contacting and training influential personnel, the United States can likewise shape the preference of national elites away from disagreeable activities. The model is therefore not inconsistent with standard arguments in the arms transfer literature.

In addition, the model is consonant with two of the basic theoretical approaches to relational control. The first derives its inspiration from the literature on power. Let us call the conditional probability that B will engage in a certain type of activity Q, given that A desires that type of behavior from B, the amount of influence A has over B with respect to Q (Dahl, 1957; cf. Nagel, 1975). Harsanyi (1962) points out that the opportunity cost incurred by B in not performing Q is likely to be a significant determinant of the amount of influence A has over B. Now, an activity which is highly unlikely to be performed by B, because of the high opportunity costs associated with it, is likely to be an activity which, for all practical purposes, B does not consider a viable option. Thus, to the extent that A exerts influence over B, A *ipso facto* constrains B's activities.⁸ This notion corresponds nicely to the argument in the model concerned with cost manipulation.

The second approach differs from the first as brainwashing differs from torture, to use a gruesome (but apt) analogy. This approach derives its theoretical inspiration from Gramsci's work on hegemony (1971). Gramsci argues that in those nations with a highly developed civil society, the bourgeoisie is able to maintain itself in authority through relatively peaceful means (peaceful, that is, compared to physical coercion). The "web of group-affiliation," to borrow Simmel's phrase, that exists in most pluralistic societies renders the state less important as an instrument of class domination than it is in nations where civil society is relatively minuscule. In this respect, Gramsci contrasts Italy with Russia, arguing that Lenin's methods would be inappropriate for a country as "dense" as Italy. Such hegemony by the bourgeoisie as Gramsci describes certainly has the effect of constraining the activities open to the proletariat. And the intriguing point about Gramsci's argument is that these constraints need not be generated by manipulation of material resources, but rather by control over ideas and symbols (cf. Marcuse, 1964; Althusser, 1971). There is a clear correspondence between this conclusion and the argument about ideological control modeled above. Hence, the model we put forward is

grounded, not only in the arms transfer literature, but on a broader theoretical level. We should therefore be able to apply it, not only to arms transfers, but to other forms of interstate interaction.

A final point. It is important to realize that the model elaborated above argues that *structural* relationships between nations (controls over costs and ideology) lead to *behavioral* consequences (limited disagreeable activities). There are, of course, other ways to look at these phenomena. Rather than focus on behavior as the outcome of interest, one could concentrate on structural outcomes such as immiserization or class cleavages (the Northern European work on "structural violence" and the Latin American work on "dependencia" are of this sort). This essay eschews that approach—not because structural outcomes are trivial, but because governmental activities are *not*. Much of the literature on both the right and the left treats the governments of Third World countries as either passive or insignificant. This may be the case, but surely it is a proposition which should be examined empirically, and that is what this paper attempts.

MEASUREMENT

Before we turn to measurement *per se*, a preliminary point on methodology is in order. Since we are trying to determine whether control over costs and ideology can produce systematic variations in behavior, we must be able to observe whether there is indeed a discernible pattern of behavior. This requires us to aggregate behavior over certain time periods. Somewhat arbitrarily, the period January 1, 1970 to July 31, 1973, was chosen.⁹ Similarly, in order to even out fluctuations in control over costs and preferences, the independent variables were aggregated over the period extending from roughly 1950 to 1970.¹⁰ (The reason for the longer time period is that we are interested in the extent of control over the total stock of resources and ideology, and a 20-year period should approximate that stock.¹¹) The independent variables are aggregated over a time period which ends several years before that of the dependent variable, in order to take account of any time lags which ensue between the onset of an influence attempt and its observable consequences.

Turning to the actual issue of measurement, let us begin by focusing on the outcome delimited earlier: the degree to which the putative goals of US foreign policy are met. In the previous section of this paper, we explicitly equated the satisfaction of US goals with low levels of

activities undesirable to the United States. The problem now is which activities to focus on. If we pitch our analysis at too low a level, we would limit sharply our ability to generalize across cases. If on the other hand we move to a high level of abstraction, we shall be forced to include so many disparate activities that we would be in danger of obscuring the semiautonomous character of foreign policy goals (Davis, 1972). Let us therefore focus on two middle-range, relatively distinct activities which seem to describe the overarching concerns of US foreign policy. The first relates to superpower rivalries: it is the extent to which other countries tend to favor the Soviet Union over the United States. The second concern relates to anxieties of a more overtly commercial nature: the extent to which American property overseas is threatened. Keep in mind that these are putative goals; no claim is made that they are the "true" and only goals of US foreign policy. Nevertheless, they appear to be quite plausible goals for American policymakers to hold—and goals which in fact appear to be operative at least into the mid-1970's.¹² Keep in mind as well that these goals are not the only ones we can impute to the US Government; obviously, there are many others. We would contend, however, that those other goals are *premised* on the realization of the two major objectives we mentioned above. As examples, contrast US policy toward Mossadegh, Arbenz, Allende, and the Dergue with "normal" American policy toward their predecessors. In short, the "cold war" and "economic" goals appear to be (a) reasonably accurate portrayals of "true" American policy; and (b) relatively significant in the constellation of US foreign policy objectives.

We are now faced with the problem of finding indicators for the satisfaction of these goals. To ascertain the degree to which a nation favors the USSR over the United States, data were gathered from the World Events/Interaction Survey (1975) on the behavior of nations toward the Soviet Union and the United States during the 1970-73 time period referred to above.¹³ Those actions deemed to possess some degree of friendliness¹⁴ were selected, and scored as 1 or 2, depending on whether the friendly action was in *response* to the United States or USSR or was *initiated* by the country. All scored actions were then added together to create indices for each nation of its friendliness toward the United States and toward the USSR. (If a nation had no friendly actions, it was scored as 0.) Since we are interested in the extent to which nations favor the Soviet Union over the United States, the US friendliness score was subtracted from the Soviet score, yielding an index of disagreeable cold war activity.

The process of finding an index of threats to US overseas property was somewhat less involved. Data were collected from the State Department (1971, 1974) on the number of nationalizations, expropriations, and other disputed takings of US investments which were initiated during the above-mentioned 1970-73 period. Some thought was given to weighting actions by the severity of governmental behavior, but, as the authors of the studies explain, both practical and legal distinctions between types of investment disputes are becoming increasingly blurred. Consideration was also given to categorizing disputes by the book value of the property in question, but such data are difficult to find. The number of disputes were then added to obtain an index of disagreeable economic activities.

For the purposes of this paper, we shall treat the two indicators as separate explanandums. (Scores, by country, for both indicators, are shown in the Appendix.) The goals are quite distinct from each other, both conceptually and, as we have argued, bureaucratically. Moreover, there is very little empirical connection between the two measures ($r=.08$). Evidently, nations are not "anti-American" in any systematic way. Finally, for policy purposes, it is more useful to assess the effect of some instrument of US foreign policy on specific outcomes rather than on more abstract concepts. For these reasons, there appears to be considerable utility in estimating two sets of equations—one dealing with cold war goals, the other with economic ones. In later work, we shall attempt to create a measure of foreign policy success incorporating both cold war and economic goals.

Turning now to the independent variables, let us begin by considering the extent of US control over the cost of recipient government actions. As implicitly defined above, the "price" of an activity refers to the amount of resources that must be given up to perform the activity. To the extent that the United States can demand large amounts of resources if a recipient engages in a certain activity, it *ipso facto* sets a high cost on that activity. The extent of US control over costs can therefore be ascertained by the extent of US control over resources. It is reasonable to assume that American policymakers find it easier to control US-supplied resources than to control resources they did not supply. For one, many resources are not supplied in one-time shipments but are spread out over a period of several years. The supplier can then use the threat of embargoing later supplies as a means of raising the cost of those activities it considers undesirable. A similar argument holds for spare parts. Even if resources are delivered in single shipments, recipients will typically need spare parts and fuel.

If the above reasoning is correct, it suggests two things. First, US control over any given resource is proportional to the amount of that resource supplied by the United States. (Since a shipment of \$5 million worth of some resource is obviously more important to Chad than to Brazil, it makes sense to divide the amount of each US-supplied resource by some measure of national size.) Second, the extent of US control over any specific resource varies from one resource to another, depending on the nature and delivery patterns of the resource. For these reasons, what we have hitherto represented as a single term in the model, C , is in reality composed of a set of individual terms C_i , each representing the extent of US control over the cost of some resource i . Since the extent of US control varies, *ceteris paribus*, by the type of resource, since some resources are more important to recipient governments than others, and since we would like to separate the effects of arms transfers from other US-supplied resources, it seems reasonable to assume a different coefficient for each resource cost rather than arrive at some average. Dividing each resource by a measure of national size also has the advantage of yielding variables which are percentages, thereby permitting direct comparison of the estimated coefficients.

The question now is which resource to include. Many different types of resources flow between countries, and certainly some are more important than others. From a reading of the relevant literature, it appears that three types of resources are theoretically apposite. The first is exports. As far back as 1945, Albert Hirschman proposed that decreases in trade could be used as a means of applying pressure to other countries. In their famous essay on the "imperialism of free trade," Robinson and Gallagher (1953) prefigure the work on neocolonialism by noting the informal political controls made possible by trade. The UN's use of trade sanctions against Rhodesia, and the recent call for sanctions against South Africa, provide evidence that trade is still viewed as a political instrument. Accordingly, data on exports to the United States in 1970 were culled from the International Monetary Fund *Direction of Trade Annual* and divided by gross domestic product in 1970, drawn from the UN System of National Accounts.¹⁵

A second resource of some importance is investment. It is by no means a novel proposition that investment can lead to political malleability; explicit statements of this proposition, however, are relatively recent. Some speculation can be found in early writings on

neocolonialism (cf. Barratt Brown, 1974, Chap. 11). Most writing on the subject, however, has concerned multinational corporations, which have been the subject of both "liberal" critiques (e.g., Vernon, 1971; Servan-Schreiber, 1968) and "radical" ones (e.g., Barnett and Muller, 1974; Vaitos, 1974). With these points in mind, data were collected from the Organization for Economic Cooperation and Development (1972) on the stock of US investment in foreign countries as of December 31, 1967,¹⁶ and divided by GDP.

A third resource often deemed significant is foreign aid. Recurrent congressional attempts to impose political conditions on US assistance only echo the characterization of "aid as imperialism" (Hayter, 1971). Similar arguments have also been made by Frank (1969) and Hirschman (1971). Accordingly, data on net (aid minus interest and repayment) US loans and grants to foreign countries for the period 1945-69 were gathered from the US Agency for International Development (1970) and divided by GDP.

Finally, we come to the resource that is the subject of this paper: arms transfers. In order to separate the "cost" effect of transfers from the "ideological" effect, data were taken from SIPRI (1971) on the stock of major weapons transferred by the United States between 1950 and 1969. Since SIPRI data are reported in ranges rather than precise amounts, the mid-point of each range was rather arbitrarily chosen as the value of transfers for that year.¹⁷ When the data specified no upper bound, the exact figure could usually be found by combing the text. Data were similarly collected on the stock of Soviet arms transfers. Since we would like to gauge the effects of weapons manipulation, a denominator representing the size of a country's stock of major weapons would be appropriate. To my knowledge, no such information in *value* form (i.e., monetary worth) exists in the public domain. As a surrogate, data on the stock of *all* transfers as of 1969 were used. This measure ought to be valid: SIPRI notes that because indigenous production of major weapons in Third World countries—at least through 1970—was on a relatively small scale; because only a few countries had succeeded to any extent in producing significant portions of their needs; and because much of *that* production relied on licensing arrangements, "No country has managed to acquire military self-sufficiency. Indeed . . . the degree of self-sufficiency is hardly increased by domestic defence production" (SIPRI, 1971:782). Our surrogate therefore appears to be a relatively good measure of the stock of major weapons.

The arms indicators were then combined to produce two indices of US control over the price of arms transfers. For the "economic" equation, we are concerned primarily with the proportion of total weapons "stocks" coming from the United States. The greater that figure, the more the United States ought to be able to limit property threats. For the "cold war" equation, though, our concern is with recipient behavior toward both the United States and the USSR. For this reason, Soviet transfers were subtracted from American ones, and divided by the "stocks" of major weapons.

Let us turn now to the last concept in our model: US control over ideology. We are concerned here with the extent to which the ideas of governmental policymakers are of American inculcation—if not origin. We cannot, of course, observe ideas directly. But we can observe the way in which they are transmitted. One such way—and an important one—is through schooling. As O'Donnell argues:

Executives attending business schools molded after prestigious U.S. models, military officers studying abroad and in military academies that adopt curricula and approaches proposed by foreign advisory missions, and *tecnicos* getting their degrees abroad—all learn role-specific techniques, but above all they learn role-models. How role-incumbents in the 'originating' societies perform, what support they have and what rewards they can expect, what the criteria for achievement are—all are transmitted together with the more specific technical expertise of each profession.

This is a crucial point. What is transmitted from the 'originating' societies is a complex constellation, of which the technical expertise is only one element. (O'Donnell, 1971:81)

Our hypothesis would be that the greater the proportion of any particular group schooled in the United States, the greater the control over that group's ideology that can be imputed to the United States. As with prices, we shall transform the single term I into a set of terms I_j , each representing US control over the ideology of some group j , and estimate coefficients for each of those groups.¹⁸

The question now is which groups to focus on. One group, of course, is the military. Few writers deny the importance of the armed forces in Third World nations; Quijano has gone so far as to call them "a sort of sub-state within the state" (1974:88-89). Recognizing the political importance of the armed forces in the Third World, the United States has had for a number of years a training program for foreign military personnel. This program is, in a sense, the ideological counterpart of arms transfers; as the Draper Report urged, training "brings foreign

nationals into close contact with US citizens under conditions which tend to promote an appreciation of the value of our country and way of life" (quoted in SIPRI, 1971:164). Accordingly, data were gathered from the Department of Defense (1969) on the total number of students trained under the Military Assistance Program between 1950 and 1968.¹⁹ To assess the impact of this training on the armed forces, the number of trainees was divided by the size of the armed forces in 1968, as gleaned from the Arms Control and Disarmament Agency (1973).

The military, however, is not the only politically relevant group. A second group, which writers in the "dependencia" tradition (cf. Duvall *et. al.*, 1977) have increasingly focused on, is what Quijano (1974) calls the "techno-professional bureaucracy." Both Latin American writers (e.g., Cardoso, 1973) and African ones (e.g., Amin, 1974) have seen this group as playing a major role in political decisions. Ideally, we would like data on the number of "technocrats" from each country educated in the United States. Unfortunately, such data are not extant. However, data do exist (UNESCO, 1972) on foreign students, and even if all of them are not "technocrats,"²⁰ most of them are likely to be elites who will eventually play important roles in their countries' political hierarchies. Data from UNESCO (1972) were therefore collected on the number of foreign students, by country, studying in the United States in 1970, and divided by the total number of students enrolled in higher education in each country in 1970 (also taken from UNESCO).

Having derived measures for foreign policy goals, control over costs, and control over ideology, we are now in a position to test our model. Since measurement considerations have altered somewhat the form of the variables, the implicitly transformed model is depicted below:

$$(3a) \quad D_c = \alpha_0 c + \sum_{i=1}^m \beta_{ic} C_{ic} + \sum_{j=1}^n \gamma_{jc} I_j + u_c$$

$$(3b) \quad D_e = \alpha_0 e + \sum_{i=1}^m \beta_{ie} C_{ie} + \sum_{j=1}^n \gamma_{je} I_j + u_e$$

where a subscripted c represents the "cold war" definitions of D and P_i and a subscripted e represents the "economic" definitions of those terms.

RESULTS

Data on the above-mentioned variables were gathered for a sample of 69 Third World countries (see the Appendix for the list).²¹ The sample was restricted to Third World countries because there is little evidence that the United States transfers arms to advanced capitalist countries in an effort to satisfy either of the goals enumerated above. Obviously, the goals would not apply to socialist countries.

For reasons which will be discussed below, Equations (3a) and (3b) were estimated using different techniques. We shall begin by discussing (3a), the "cold war" variant. Since the standard Gauss-Markoff assumptions ought to hold here (and visual inspection does not disconfirm this expectation), Equation (3a) was estimated using ordinary least squares. Results of this estimation are reported in the top half of Table 1. As can be seen, the results are not overly encouraging: the equation as a whole accounts for only 7 1/2 percent of the variance, and a test of the hypothesis that all terms except the constant had coefficients equal to zero could not be rejected. Only one term—ideological control over the military—has a coefficient significant at the .05 level, and that is a paradoxical one, indicating that the greater the proportion of armed forces trained by the United States, the greater a nation's relative friendliness to the Soviet Union. Clearly, something is amiss.

One omission in our model is its failure to take into account the effects of context. Clearly, the power of the United States to reduce undesirable recipient activities depends to a large extent on the degree to which the recipient government feels itself endangered. High degrees of threat perception will result in a stronger preference for escape from the status quo relative to those activities the United States finds disagreeable. In effect, governments which feel threatened will have flatter indifference curves than those feeling secure; by the proof referred to before, this will lead us to predict lower levels of the disagreeable activity for threatened countries than for unthreatened ones. Endangered governments will also be more receptive to US manipulation, since the total costs of resisting American pressure will be greater than for secure governments. Finally, since threatened actors

Table 1

$$(3a) D_c = -7.4 + 20.3C_1 - 2.5C_2 - 2.0C_3 - 4.6C_4 + 33.1I_1 + 8.1I_2$$

(2.1) (59.8)¹ (27.4)² (8.8)³ (3.7)⁴ (19.3)¹ (7.0)²

$$R^2 = .076$$

$$df = 62$$

* Significant at .05

+ Significant at .01

Figures in parentheses are standard errors

C₁ -Exports
C₂ -Investment
C₃ -Aid
C₄ -Arms
I₁ -Military training
I₂ -Students
d₁ -Threat dummy
d₂ -Non-threat dummy
D_c -Cold war behavior

$$(3a') D_c = -2.3 - 11.7d_1 + 6.6d_2C_1 + 2.1d_2C_2 - 5.6d_2C_3 - 6.1d_2C_4 - 4.2d_2I_1$$

(1.9) (4.2)¹ (49.4)² (23.1)³ (10.7)⁴ (3.1)² (15.9)¹

$$+ 2.1d_2I_2 + 22.3d_1C_1 + 18.1d_1C_2 - 4.8d_1C_3 - 38.1d_1C_4 + 156.0d_1I_1$$

(5.3)² (157.9)¹ (55.2)¹ (10.9)³ (8.1)¹ (68.0)¹

$$+ 71.4d_1I_2$$

(43.4)¹

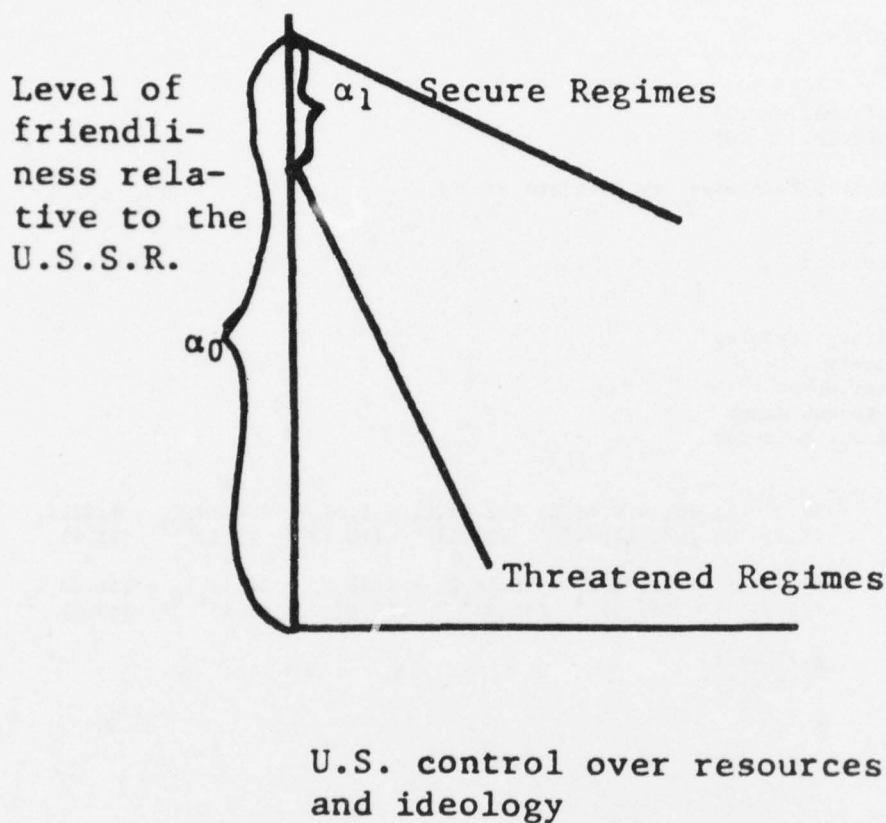
$$R^2 = .533$$

$$df = 55$$

(See text for definitions, measures, and sources.)

tend to perceive fewer options than unthreatened ones (Holsti, 1971), we would expect ideology—and hence US-controlled ideology—to play a more significant role in the process of decisionmaking for threatened regimes than for unthreatened ones. The above arguments are summarized graphically in Figure 4. They can best be tested by defining a dummy variable, d₁, equal to 1 when the regime is threatened and 0 when it is not. Since it is reasonable to assume that the threat dummy represents a threat not quickly forgotten, the value of d₁ was assigned based on whether, in 1970, a nation had experienced significant armed conflict on or within its borders in the last five years. Three sources were used to determine this information: SIPRI (1971), *The New York*

Figure 4: The Effects of Threat



Times Index, and *Kessing's Contemporary Archives*.²² If we additionally define another dummy variable $d_2 \equiv 1 - d_1$, we can depict the "conflict" hypothesis as follows:

$$(3a') \quad D_c = \alpha_0 + \alpha_1 d_1 + d_1 \sum_{i=1}^m \beta_{ic} C_{ic} + d_1 \sum_{j=1}^n \gamma_{jc} I_j + d_2 \sum_{i=1}^m \beta_{ic} C_{ic} + d_2 \sum_{j=1}^n \gamma_{jc} I_j + u_c.$$

This equation was estimated by ordinary least squares and the results are reported in the lower half of Table 1. As we can see, respecification of the model to take account of danger results in far more significant

estimates overall. The R^2 has risen to .53, indicating that over half the variance is accounted for. An F-test of the hypothesis that all coefficients except the constant are equal to zero is significant about the .01 level.

As for specific coefficients, the first thing we notice is that there is indeed a significant "danger" effect. The coefficient of d_1 is both negative and significant, indicating that endangered regimes are *ipso facto* less disposed to favor the Soviet Union over the United States. In addition, the coefficients for one of the variables—arms transfers—is not only correct in sign, but is far stronger for threatened countries than for peaceful ones. This is exactly as we predicted. In short, the "danger" model appears—at least as far as arms transfers go—to be relatively accurate. For the moment, let us postpone discussion of arms transfers, and proceed to the other variables.

With the exception of military training, none of the other terms are significant. This is not really surprising. For one, the ability of the United States to fine-tune trade and investment is relatively low; unless businessmen change their behavior on the basis of Third World foreign policy postures, the net effect of both of these variables on cold war goals is apt to be random. Comparable considerations apply to foreign aid: while A.I.D. can raise or lower assistance levels without much difficulty, in general it tends to do so less on political grounds (unless gross changes in "allegiance" occur) than on economic ones. The combination of US ability and willingness to manipulate prices for "cold war" ends appears—by the early 1970's, at any rate—to be concentrated in those agencies having responsibilities for arms transfers. If the goal in question were economic, we would expect a different set of variables to be significant—which, as we shall see, is indeed the case. There may be a methodological factor at work as well. The terms representing exports and investment are highly correlated ($r=.83$) so that multicollinearity may be increasing the standard errors considerably. This would suggest a multiple indicator strategy (Campbell and Fiske, 1959) for future research—at least with respect to those two terms.

The effect of ideology is somewhat surprising. While both I_j terms are insignificant for secure regimes, the training term is positive and significant for endangered governments, and the student term is not far from being so. How to explain this anomaly? One explanation might be that people trained or educated in the United States tend to think of the United States as friendly to them. If a crisis comes and US aid is *not* forthcoming in expected—or at least requested—amounts, those elites

who had high hopes about the United States are likely to feel betrayed by the United States. Under these conditions, cognitive dissonance theory (Festinger, 1957) would lead us to expect a swing in friendliness toward the Soviet Union. The cases of Pakistan and Turkey would seem to exemplify this phenomenon. In short, it is those countries with rosy views of the United States whom the United States is (not intentionally) most likely to alienate during a crisis.

If this line of argument is correct, it has rather disturbing overtones. For recall that arms transfers appear to have the expected negative effect on friendliness to the Soviet Union. Yet as we have just contended, the threat or enactment of an arms cutoff has the effect of alienating recipients so that they move toward the Soviet Union. In order for these two relations to hold simultaneously, there must not be many cases in which the United States cuts off or reduces arms shipments to a country which gets most of its arms from the United States. This means that, on the whole, the significant negative relationship between transfers and pro-Soviet behavior can only be explained by US acquiescence in the arms demands of threatened recipients.²³ But if this is the case, then *the tail is wagging the dog*: recipients of US weapons can obtain additional armaments by threatening to turn toward the Soviet Union. In effect, the United States is poised on a knife-edge between loss of friends and loss of control—and most of the time, it opts for the latter. In addition, remember that the countries who pose this dilemma to the United States have recently been engaged in armed conflict: by agreeing to their demands, the United States is in effect being blackmailed into underwriting local wars. This is reverse leverage with a vengeance.

The irony, however, lies deeper than that. The evidence indicates that Third World countries can use their policies toward the US-Soviet rivalry as a tool to manipulate the United States. These policies appear to be quite volatile. The onset of crisis leads to high levels of support for the United States, yet these levels are maintained only if the United States gives in to recipient demands. Clearly, the lasting significance of cold war policies on the part of Third World countries is quite limited. This should not be misconstrued as an attack on Third World nations, for given the nature of the international system, it is good politics as well as good psychology to switch loyalties if your supplier does not come through. Rather, the foregoing argument is a criticism of universality in policymaking, the kind of universality which transplants European-centered containment policies to Third World milieus. If

Table 2

$$(3b) Y = -2.5 - 73.3C_1 + 55.4C_2 - 8.9C_3 + 6.8C_4 - 14.6I_1 - 13.7I_2$$

$$(-1.34) (-1.51) (2.58) (-1.02) (1.31) (0.70)^1 (-1.20)^2$$

$$-2 \cdot \ln \lambda = 12.01$$

$$df \text{ for likelihood ratio test} = 6$$

$$df \text{ for t-test} = 62$$

*Significant at .05

+Significant at .01

Figures in parentheses are t-statistics

C₁ -Exports

C₂ -Investment

C₃ -Aid

C₄ -Arms

I₁ -Military Training

I₂ -Students

M -Commercial Importance

Y-Index (related to D_e--threats to U.S. property--as per footnote 24)

$$(3b') Y = -2.85 - 0.35MC_1 + 0.23MC_2 + 0.20MC_3 - 0.10MC_4 - 0.12MI_1 - 0.16MI_2$$

$$(-2.94) (-3.09)^1 (3.63) (4.20)^3 (-0.80)^4 (-1.85)^1 (-2.48)^2$$

$$-2 \cdot \ln \lambda = 35.09$$

$$df \text{ for likelihood ratio test} = 6$$

$$df \text{ for t-test} = 62$$

(See text and footnote 24 for definitions, measures, and sources.)

American policymakers really do have as a primary goal the reduction of relative friendliness to the Soviet Union, and if they use that goal as a touchstone of their relations toward third world countries, most of whom consider the US-Soviet rivalry to be of low significance, then they are asking to be manipulated.

Let us turn now to the second variant of the model, that concerning threats to US overseas property. The distinctive feature to this outcome is that it is truncated: while there can be any positive number of threats against US property, the number cannot be negative. Since there are in fact a large number of countries for which no threats against US investments were reported, normal linear regression techniques

will often be empirically inappropriate. The absence of negative [D_e's] in

the sample will tend to keep the estimated regression relation above the axis over the relevant range of the $[C_i$'s and I_j 's]. But this protection is purchased at the expense of making the relation so flat that the [number of investment threats] will be underestimated at the high end of the relation. (Goldberger, 1964: 251-252)

A way of getting around this problem is by using the "tobit" model.²⁴

Equation (3b) was estimated according to this technique. Results are reported in the top half of Table 2. The first thing to be noticed is that the model the equation represents is not confirmed overwhelmingly. A likelihood ratio test of the hypothesis that all terms except the constant have coefficients equal to zero provides no grounds for rejecting the hypothesis beyond the .10 level. The one significant coefficient is for the term representing the relative importance of US investment, and that has a sign opposite to the predicted one. Why are the coefficients basically insignificant? One reason, as before, may be multicollinearity, but some of the insignificant terms—arms transfers, for example—do not fit this category. Another answer may be similar to that of Equation (3a): namely, we have neglected the effects of situational phenomena. One such phenomenon of great potential significance is the economic importance of a country to the United States. US policymakers are unlikely to be as interested in Chad's economic behavior as in Brazil's. This could lead to vastly different prices being set for identical outcomes. It may also be the case, as with crises, that ideological factors may be dormant, or at least minor, for most countries, but that the United States can cue them, in a sense, by the rhetoric it uses toward countries in which it has a significant interest. In effect, we are adding an argument about decision costs (cf. Buchanan and Tullock, 1962) to our initial assumption that the United States strives to reduce disagreeable activities. Only when the opportunity costs of *not* striving are great (i.e., when the United States has a lot to lose) will the costs of activities be manipulated and the rhetoric become manichaeian. In many countries, this kind of effort is not worth the State Department's time.

With these considerations in mind, let us define a variable M representing the commercial importance of each country to the United States. One measure of that importance is the amount of US investment in each country. The above hypothesis can then be expressed as follows:

$$(3b') \quad D_e = \alpha_0 e + M \left(\sum_{i=1}^m \beta_{ie} C_{ie} + \sum_{j=1}^n \gamma_{je} I_j \right) + u_e. \quad 25$$

This equation was estimated using the tobit model, and the results are shown in the bottom half of Table 2. As can be seen, this formulation appears to account for the data somewhat better than the "situation-blind" approach. A likelihood ratio test of the hypothesis that the coefficients of all terms except the constant are zero is significant above the .005 level. All but one of the coefficients are significant above the .05 level; all but two are significant above .01.

The picture the estimation paints is an interesting one. The coefficient for arms transfers is insignificant, the only such coefficient in the equation. This can be seen as further evidence for the compartmentalization of US foreign policy referred to previously. Threats of weapons cutoffs evidently have little effect on the economic policies of recipients, probably because such threats are not often made and would, therefore, not be credible. Given the somewhat Pavlovian way in which US transfer decisions appear to follow recipient foreign policy behavior, this is not surprising.

What do appear to be important are ideological factors. The coefficients for both trainees and students are significant, and both have the predicted sign—evidence that the US ability to appeal to a shared world view is a definite factor in a government's economic decisions. It will be recalled that in the cold war model, the coefficient for the military training term was far stronger than the coefficient for the student education term. Considering the importance of the military in foreign affairs—especially under conflict situations—this is not surprising. In similar fashion, we would expect that the military play a smaller role in the determination of economic policy than do "technocrats;" support for this can be seen by comparing the coefficients of the two terms.

Arms transfers excepted, cost factors appear to be more significant than ideological ones. The effects, however, are somewhat surprising. The prominence of both US investment and of US aid in the economies of underdeveloped countries seems to increase, rather than diminish, the number of investment threats (though exports appear to have an opposite effect). Why should this be? The answer, I think, is one of opportunity costs. The greater the role played by investments and aid in a nation's economy, the greater the opportunity costs are to the host government if it fails to control those resources (cf. Breton, 1964; Johnson, 1965). This is true both for "technocrats" trying to maintain control over economic policy and for the military and other groups trying to maintain (or acquire) political sovereignty (cf. Moran, 1976).

In either case, investments and aid represent, in Keynesian terminology, "leakages" which reduce the "multiplier" of those groups' power. One way of reducing those leakages is to increase their geographical scope. If investments and aid come from a great many countries instead of being restricted to one or two, a nation's vulnerability to the whims of another country is considerably lessened. This might account for peripheral nations' strong preference for multilateral forms of aid. Another way of reducing those leakages is to bring greater amounts of resources under national control. Hence, we would expect that the more prominent the economic role played by US investments and aid, the greater a nation's recourse to investment threats.

In this type of situation, a great deal depends on the nature of American policy. If the United States appeals to a shared ideology, then, as we have seen, it can have moderate success in keeping investment threats at a low level. If the United States increases its imports from a country, then, as the negative coefficient indicates, it can increase the costs to that country of any disruptions in trade resulting from nationalization disputes (cf. Hirschman, 1945; Moran, 1974). This type of maneuver has the effect of lowering the opportunity costs of the "leakages," thereby lowering the probability, and hence the expected number, of investment threats. If the United States threatens to tighten investment controls or to reduce foreign aid, however, it will tend to exacerbate the situation rather than improve it. American sanctions with regard to investments or aid serve to emphasize the very "leakages" which concern governing groups. This type of policy will raise the opportunity costs of acquiescing to US demands, thus making for more, not less, governmental truculence. A case in point is Jamaica, where "Ambassador Vincent de Roulet threatened financial reappraisals (if not worse) if nationalization in the bauxite industry became an issue in an upcoming Jamaican campaign." When the ambassador's efforts "became publicly known, he was declared *persona non grata*, and the attack on the American aluminum companies intensified" (Moran, 1976: 22). In short, whatever power the United States has to prevent other nations from undertaking disagreeable economic policies is a function of the subtlety of American policy. Ideological (in the broad sense of the word) and material inducements will succeed; threats and sanctions will fail.

CONCLUSION

Two conclusions can be drawn from this study. The first concerns

arms transfers; the second is more general. From the standpoint of American foreign policy, the use of arms transfers has been singularly unsuccessful. Arms transfers have no effect on national economic policies; when used punitively in foreign affairs they backfire. Instead of restraining the foreign policy behavior of recipient nations, they are themselves determined by that behavior. The only other effect of transfers this study has been able to discern is that they serve to underwrite local conflicts. From the standpoint of the two goals examined in this paper, there appears to be no political reason for the United States to transfer weapons to Third World countries. There may of course be economic reasons: arms sales can help the balance of payments. There may also be highly specific political reasons for transfers: the cases of Israel and Pakistan suggest that if the United States builds up the arsenals of its recipients enough for them to fight a war, it may, under certain circumstances, get them to stop fighting—for the time being. Finally, there may be a military justification for transferring weapons to certain Forward Defence countries, but it needs to be assessed rather than assumed. Overall, based on available information, the political costs of transferring arms to Third World countries are both demonstrable and significant. Proven benefits would have to be quite major to justify the continuation of the transfer program in its present form.

The view from the periphery is only partly rosier. It is true that Third World governments exhibit a considerable capacity for defying American pressure; on the other hand, the "relative autonomy" (Poulantzas, 1973) those regimes evince has disturbing implications for social reform. For if governments can withstand American threats, they can also withstand domestic ones—especially if they are fortified by a stockpile of US-supplied military hardware. In fact, the very popularity reaped by regimes which expropriate US property or otherwise strike out at the Yanqui presence may enhance their capacity to repress social unrest and postpone necessary reforms. Brazil is a case in point. In short, strong governments are not always a blessing; autonomy cuts both ways.

On a more general level, it appears that the United States has only a limited ability to accomplish basic foreign policy objectives. Manipulation of US-supplied resources backfires more often than not. Ideological inculcation has a moderate effect on economic policy and an *initially* similar effect in foreign affairs. One could conclude that the cause of this disparity in the effects of resources and of ideology is

bureaucratic. Different agencies have hold of different parts of the resource lever, and fail to coordinate their policies, whereas ideology is all of a piece. There is some truth to that notion, but I think that the underlying problem is phenomenological: Third World countries have different goals and needs than does the United States; they therefore see a different world. Since the United States is much more concerned about the Soviet Union than are most underdeveloped countries, any US effort to use such concerns as a standard of behavior is bound to result in the manipulation of US behavior by the underdeveloped countries. Since Third World countries are much more concerned about political and economic autonomy than is the United States, any US attempt to bring about economic outcomes by threatening national autonomy is bound to result in increased truculence by the Third World nations.

Ideological techniques, on the other hand, appeal to a shared world view and therefore have a good chance of being received sympathetically. The difference between resource threats and ideological appeals is that the latter approach speaks to Third World concerns; the former approach ignores, or preys on, those concerns. In the end, the only way for the United States to accomplish its goals vis-a-vis Third World countries is to speak to those countries' concerns. This phrase is an ambiguous one—and deliberately so. For what is needed is not only that the United States speak to Third World countries—there are enough American-trained elites by now for that to be accomplished—but to speak to their *concerns*. The need, in other words, is far more than just talk—it is for empathy.

ENDNOTES

1. Because it covers only major weapons, these figures "reflect only about one-half of the total procurement of military equipment in this region" (SIPRI, 1975a: 250). We are concentrating in this paper on American transfer policy, for three reasons:

- The United States is the largest arms salesman and therefore the most important single case on which to concentrate.

- US transfer policy is more clearly directed at influence than any other nation's except the Soviet Union (SIPRI, 1971). Since this paper is concerned with the extent to which arms transfers lead to *political* goals, the United States appears the most relevant single case.

- Data for some of the variables used in the analysis do not exist for countries other than the United States; what does exist is less reliable than that pertaining to the United States.

2. Preamble, Mutual Security Act of 1951. The 1973 Foreign Military Sales Act directed that "sales be approved only when they are consistent with the foreign policy interests of the United States" (Legislation on Foreign Relations, 1974: 223).

3. Note that we wish to concentrate on *putative* goals; we do not claim that such goals are actually held by decisionmakers. Thus arguments about bureaucratic politics are not germane here.

4. In an earlier version of this paper, I argued that since the North American and Scandinavian approaches operated on the basis of different epistemological assumptions, there was no common conceptual ground on which to compare them. In retrospect, I believe that I overstated that conclusion. Both approaches, it seems to me, emphasize broadly similar outcomes; it is the level of analysis at which they operate, in addition to their normative assumptions, which sets theorists of the two schools apart. In this sense, the two approaches are not wholly different paradigms.

5. This assumption is not very restrictive. If a "real" goal of US policy is to increase the likelihood of a favorable event occurring, it can be represented by the reduction of the opposite of that goal. Notice that we are postulating reducing, not minimizing, behavior; the United States is viewed as "satisficing."

6. Unless, of course, the government's demand for the activity is completely inelastic. Notice that we are hypothesizing a relation between the level of US control over costs, and the level of undesirable activity. This is in fact an end-state reached after a series of US-initiated cost increases and a concomitant series of diminutions in Activity I. Since we propose to use data aggregated over a long time period, the end-state is likely to have been achieved, and we ought to observe the relation between levels which was referred to above. Only if the intensity of US pressure varies nonrandomly would we need the detailed model—and as we shall see, there are indirect ways of tapping this phenomenon (e.g., through interaction terms representing the importance of the recipient to the United States. In any case, to actually estimate the dynamic relationship would require far subtler data than we now possess.

7. The same considerations about dynamic models apply here as in note 6.

8. This should not be taken as a complete description of the influence

process. For one, A incurs opportunity costs in pressing an influence attempt, not simply by manufacturing carrots and sticks, but by using them against resistance. Moreover, the "schedules" by which A converts resources into carrots and sticks, and by which carrots and sticks raise B's opportunity costs, are by no means the same for all pairs of actors. See Alker (1973) for a more detailed explication of this point.

9. The choice of mid-1973 as a terminal point for the dependent variables was dictated both by considerations of data availability, and by a desire to exclude the "shocks" of the September coup against Allende and the October war in the Middle East.

10. Because data series vary according to sources, and access to data series varies according to library acquisition policies and university construction timetables, the specific dates for the independent variables are not identical.

11. There are two cases where stock data were not used: trade and students. In the former case, flow data are theoretically more appropriate (it is difficult to think of the United States controlling a *stock* of export earnings); in the latter case, no alternate sources of data were readily available.

12. As one indication that concern over expropriation of US investment extended beyond Senator Hickenlooper, former President Nixon appears to have been quite agitated by the prospect of massive nationalization of US property in Chile following Salvador Allende's election. As evidence that concern over cold war issues has not abated, the same issue of *The New York Times* (May 26, 1977) which reported the Nixon story also reported that the State Department has become concerned enough about Ethiopia's leanings toward the Soviet Union to seriously consider military aid for the Sudan. More recently, there have been suggestions that Somalia might receive aid. Of course, these stories do not prove that the putative goals we cited are actually held by policymakers; they are, however, strongly suggestive of such beliefs.

13. It should be noted that "cold war" data are missing for March to December of 1970.

14. Hostile actions were excluded on theoretical grounds: it is by no means apparent that if a country becomes less friendly (defined in some sense by "we-feelings") to another it thereby becomes more hostile (defined in some sense as "anti-we-feelings"). Recent psychological evidence tends to support this contention (cf. Ebbessen, *et. al.*, 1977).

15. Export data were used rather than import data because it seemed that foreign exchange was a somewhat more salient resource for most countries than imports. In practice, the relationship between export concentration and import concentration is very strong (Michaely, 1962).

16. Ideally, we should have used data on the stock of investment as of 1970, but to my knowledge, no such data exist. The empirical consequences, in any case, are likely to be similar. A word on those consequences: readers who are aware of the enormous body of literature concerned with issues of "dependencia" may be surprised that we have failed to cite any of the work in that tradition done on investment. The reason for this omission is simply that none of the dependencia literature bears directly on the question we are asking: how, and to what extent does the United States—or any major industrial nation—have the power to shape those actions on the part of underdeveloped countries which are aimed at the United States? While much of the dependencia literature is

concerned with how external pressures affect governmental policy, it takes the effectiveness of many of those pressures as a given. Its focus, moreover, is primarily on domestic governmental aims and domestic pressures. What we are asking, then, is considerably different than the questions most dependencia theorists have been asking, even though the broad concerns are the same. For a statement of dependencia theory, see Duvall *et. al.*, 1977.

17. I am indebted to Arne Disch for suggesting this procedure.

18. There is still a problem remaining: it is difficult, if not impossible, to separate the effects of domestic ideology from those of US-imposed ideology. Thus to conclude that all relatively flat indifference curves are instances of American ideological hegemony may be quite misleading. The anticommunism of Saudi Arabia is a case in point. Data on domestic ideology would resolve this dilemma, but such data are very difficult to come by. Consider, though, that we only need to distinguish between foreign and domestic ideologies when the two do not covary much; it is only if US ideological domination is unrelated to existing domestic ideology that the latter type can bias the relationship of the former to US foreign policy goals. As an empirical proposition, this situation is likely to be relatively rare. Barring rather drastic upheavals such as major coups or revolutions, there is no reason to expect that governments adhering to certain ideologies will lack complementary external ideological ties. A very rough test lends support to this proposition: those countries with the greatest proportion of their students enrolled in American universities appear to be those countries with the most right-of-center regimes, the only exceptions being countries like Allende's Chile. For our purposes, then, there is no compelling need to differentiate between foreign and domestic ideological influences.

19. A number of countries were not listed in the table. To determine whether this was due to reporting problems or to the fact that no soldiers were trained, I inspected the arms supply registers in SIPRI (1975b) to see whether any equipment had been delivered by the United States prior to 1970. If there were no transfers, the number of personnel trained by the United States was probably small or nil. In most of the omitted countries, this turned out to be the case, and they were coded as 0. Those omitted countries to whom the United States *had* supplied major weapons were dropped from the sample.

20. In 1970, UNESCO figures indicate that roughly 2/3 of all foreign students in the United States were specializing in "technocratic" subjects (natural and social sciences; engineering).

21. Originally, the sample comprised around 80 countries. When a country was missing data on some variable, the case was dropped rather than incorporate data from another source. The aim was to standardize reporting techniques for each variable.

22. This is not intended to be a definitive listing of violence—far from it. The purpose was solely to get a rough idea of whether or not a government was threatened; there are obviously other dimensions besides the one we have tapped. The reader interested in high quality data on the amount and type (not just existence) of violence (not just armed conflicts) is referred to the source listings in Gurr and Bishop (1976).

23. Additional support for this explanation comes from the fact that the bivariate correlation between cold war behavior and the US proportion of total transfers is lower than the correlation between cold war behavior and *total* US transfers (not a percentage figure). This indicates that the United States is not so

much manipulating its customers toward acceptable behavior as it is rewarding those recipients who have already acted in friendly ways.

24. This approach postulates an index, Y , which is a linear function of the variables C_i and I_j . That is,

$$Y = \alpha_0 + \sum_{i=1}^m \beta_i C_i + \sum_{j=1}^n \gamma_j I_j + u_e. \quad Y \text{ is then linked to the observed outcome, } D_e, \text{ as follows:}$$

$$D_e = 0 \quad \text{if } Y - u_e < 0$$

$$D_e = Y - u_e \quad \text{if } Y - u_e \geq 0.$$

On the assumption that u_e is distributed normally, with mean zero and standard deviation σ , we can construct the cumulative distribution function for D_e in terms of α , β_i , γ_j , and σ . From this distribution the likelihood function can be constructed, and those α , β_i , γ_j , and σ which maximize the logarithm of the likelihood function can be estimated. Joint hypotheses about n parameters can be tested by utilizing the fact that -2 times the natural logarithm of λ , the likelihood ratio, is distributed approximately as χ^2 with n degrees of freedom. (It should be noted that this test is strictly appropriate only for large samples.) This is a brief summary of the basic logic underlying the model; readers wishing more detailed descriptions should consult the exposition in Tobin (1958).

25. Considering the way M has been measured, it may be that we are building in a tautology. The argument here would be that given equal chances, *ceteris paribus*, for investments to be threatened, the greater the amount of investment, the greater the expected number of threats. I think that this argument is misleading. Remember that we are talking about the *number* of investment threats, not the book value of those threats. Now to be sure, if the level of investment is five times greater in one country than another, we would expect that the average threatened firm in the former case would have a book value roughly five times that of the latter. But this does not mean that the *number* of threatened firms will be greater in the former case. For that to be true, we would have to show that the stock of US investment covaried with the number of US firms, and that the number of firms was in turn related to the number of investment threats. To check on this, data were gathered from Angel (1975) on the number of US firms in each country of the sample. An empirical test of the above hypotheses confirmed the first but rejected the second ($R^2=.04$). There does not seem to be any simple relation between the number of firms and the number of investment threats—possibly because the chances of any one firm being nationalized in a country with many US firms are smaller than in a country with few firms. (This hypothesis suggests something about the prominence of investment, which will be explored below.) The inclusion of investment as an independent variable is thus not tautologous. However, because the absolute amount of investment does covary with the prominence of US investment (C_2)($R^2=.16$), a multiplier indicator strategy for measuring M would be preferable.

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APPENDIX
SCORES ON THE DEPENDENT VARIABLES
FOR COUNTRIES IN THE SAMPLE

Country	"Cold War" Score	"Economic" Score
Afghanistan	-6	0
Algeria	-2	0
Argentina	-11	3
Benin	0	0
Bolivia	-4	2
Brazil	-18	0
Burundi	0	0
Cambodia	-62	0
Cameroon	-2	0
Central African Empire	0	1
Chad	0	0
Chile	-15	42
Colombia	-2	3
Congo	0	0
Dominican Republic	-2	0
Ecuador	-14	4
El Salvador	-2	1
Ethiopia	-6	0
Gabon	0	0
Ghana	-2	2
Guatemala	0	1
Guinea	0	1
Guyana	0	1
Haiti	-7	2
Honduras	0	0
India	-8	7
Indonesia	-3	0
Iran	-14	1
Iraq	13	0
Ivory Coast	-4	0
Jordan	-16	0
Kenya	-2	0
Korea (South)	-39	0

Kuwait	0	1
Lebanon	1	1
Liberia	-12	3
Libya	4	6
Madagascar	0	0
Malawi	-1	0
Malaysia	-8	0
Mali	0	0
Mauritania	0	0
Morocco	0	1
Nicaragua	-8	0
Niger	0	0
Nigeria	-6	3
Pakistan	-26	1
Paraguay	-5	0
Peru	-3	7
Philippines	-23	0
Rwanda	-2	0
Saudi Arabia	-11	1
Senegal	-3	0
Sierra Leone	-1	0
Somalia	0	3
Sri Lanka	1	1
Sudan	-8	4
Syria	22	2
Tanzania	-2	0
Thailand	-44	0
Togo	0	1
Trinidad and Tobago	0	1
Tunisia	-7	0
Uganda	-19	9
Upper Volta	0	0
Uruguay	0	0
Venezuela	0	8
Zaire	-5	0
Zambia	-10	5

(See text for definitions, measures, and sources.)

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